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Debunking the Myths of Indigenous Knowledge: A Case Study of the Mandi of...

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Debunking the myths of indigenous knowledge: a case study of the Mandi of Madhupur, Bangladesh

by

Samina Luthfa

A Thesis

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CERTIFICATE OF APPROVAL

This thesis is accepted and approved in partial fulfillment of the requirements for the Masters of Arts.

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Abbreviations and Acronyms

Asian Development Bank	ADB
Bangladesh Agricultural University	BAU
Department for International Development	DFID
Focus Group Discussion	FGD
Indigenous Technical Knowledge	ITK
Integrated Pest Management	IPM
International Development Institutions	IDI
International Financial Institutions	IFI
Least Developed Country	LDC
Local Non Government Organization	LNGO
Multinational Corporations	MNC
National Non Government Organization	NNGO
Non Government Organization	NGO
United States Agency for International Development	USAID
World Bank	WB

Abstract

The research presented in this thesis enquires about how the concept of indigenous knowledge functions theoretically and empirically, and its role in the politics of indigenous movements. My review of related literature revealed three different theoretical stands about the indigenous knowledge: the first, disregarded this knowledge as superstition and harmful, the second, considered it to be better and more eco-friendly than scientific knowledge and the third, warned against the dichotomy between indigenous and scientific as erroneous due to inherent ethnocentric dualism. My research was situated in the third view. It included an empirical analysis of indigenous knowledge among the Mandi (Mande/ Garo), a matrilineal ethnic group in Bangladesh. This study showed that Mandi farmers did not identify their knowledge as indigenous although they identified themselves as different from the majority population of the country. Drawing from the literature and ethnography, I conclude that indigenous knowledge as a concept is untenable, both theoretically and empirically. However, the concept is very popular in the development discourse and in indigenous movement. The reason for this is that the indigenous people regard this concept as a way to get themselves heard in the local and global development planning and the international development organizations use it as a tool for making the indigenous habitat available for capitalist market penetration. Indigenous knowledge lives because it serves the role of a weapon for both sides of the development apparatus.

Introduction

The concept of indigenous knowledge has been widely used by academics as well as development activists throughout the world to explain the relationship between indigenous populations and their environments to bring development (or sustainable development) to indigenous populations worldwide. My research inquires how the concept of indigenous knowledge functions theoretically and empirically. Since there has been considerable debate about the content, usage and impact of indigenous knowledge in sustainable development of indigenous communities, analyzing existing theoretical positions about this concept is important for positioning myself as a researcher on this widely debated issue. Moreover, in this research, I also enquire, how this concept functions for a specific group of indigenous people.

Existing literature on indigenous knowledge includes at least three different perspectives about the relationship of indigenous knowledge with the environment and its impact on development. One view condemns indigenous knowledge because it poses a threat to the ecosystem by over exploitation of natural resources and through abusive agricultural practices (for discussion, see Dove 1983 cited in Ellen and Harris 2000, Masipiquena *et al.* 2000). Another view suggests that indigenous knowledge is 'the science of the people' that is inherently conservationist and in harmony with the eco-system (Grenier 1998 and Sundar 2000). However, according to a third perspective, dividing knowledge into scientific and indigenous is flawed, since scientifically valid knowledge cannot be separated from its indigenous base (Agrawal 1995a, Ellen and Harris 2000). According to this view, indigenous knowledge does not have either positive

or negative relationship to the environment, this so-called relationship was created by Western scholars, reflecting the dichotomy between tradition *versus* modernity in the distinction of indigenous *versus* scientific. It is ethnocentric to relegate certain knowledge as indigenous based on the difference of procedures for generating such knowledge from what is rendered as scientific.

My research is situated in this third view and focuses on critiquing the dualism of indigenous versus scientific knowledge stated in the first two views. In doing so, I shall present how indigenous knowledge as a concept evolved and how it functions theoretically and empirically. Theoretically, neither overly positive nor negative connotations of indigenous knowledge are a reasonable way to understand how people of different ethnic identities develop, practice, and sustain their knowledge. The diversity among the indigenous communities around the world cautions us from generalizing about their knowledge as something as unified as 'indigenous knowledge'. Differentiating this indigenous knowledge from 'scientific knowledge' is even less plausible because such a dichotomy emerges from western world view of what a knowledge is, how it is generated and what its utilities are, in other words, what its utilities are for the western interests. How important this western world view is in the emergence and popularity of the concept 'indigenous knowledge' will be detailed further through the example of the life cycle of this concept. However, empirically, this research presents this wider academic discourse on indigenous knowledge drawing on literature and on ethnographic research among the Mandi (an indigenous group) farmers in Bangladesh. The Mandi, as a case study, exemplify the literature reviewed. I have explored the traditional and current Mandi agricultural practices; their perceptions about the environment and its relationship with

their agricultural practices; the rationale behind the Mandis' choice of such practices and their opinions about factors influencing the relationship between their practices, the environment, and their knowledge. My enquiries about these issues were aimed at gaining an understanding of the Mandi ways of knowing about agriculture, forests and environment and how this functions in this particular community and if it was related to how the concept of indigenous knowledge is perceived by the academics as well as the practitioners and the people themselves.

The major problems that I address in this research are; how does indigenous knowledge as a concept function in academic and development discourse? How does indigenous knowledge function in a particular indigenous community in question? How does indigenous knowledge, despite harsh criticism, continue to be the focus of attention? And how does it work as a weapon for both sides of the development apparatus? I refer to the sides of development apparatus as clusters. Cluster one consists of scholars, international development institutions, and their national and local beneficiaries while cluster two represents indigenous people around the world, their leader, scholars and organizations lobbying for a network against theft of indigenous knowledge.

My rationale for this research follows from how the concept of indigenous knowledge has been used over the years in scholarly and administrative development efforts. For years scientists have labeled local agricultural knowledge of ethnic minorities as destructive to the environment and have tried to end such ethnic practices that are rooted in the local knowledge. This was the predominant position about indigenous knowledge for years which led governments of many countries to plan projects with a view to conserving local ecology by removing the indigenous people from their

environment. For example, in 2003, the government of Bangladesh evicted the Mandi from their habitat to establish an eco park in the Madhupur forest area in Bangladesh to 'save' the forest environment. Unfortunately, such a process is not uncommon in other indigenous habitats (Chakma 2004, and for more detail about similar enclaves among Kalasha people of Pakistan see Parkes 2000). However, the opposite 'romantic' view of indigenous knowledge suggesting that indigenous knowledge is more eco-friendly than western science also has a political implications since it allows indigenous communities to lobby for and/or fight for their land rights from their respective governments and also from global institutions, such as World Bank, Asian Development Bank, United Nations Organizations. And last but not the least, the third view warns against the overuse of the concept in the development literature. Therefore, the rationale behind studying this concept is two fold; first, the results of research on the Mandi community critiquing the concept of indigenous knowledge from an empirical basis that can be useful for the Mandi, the government of Bangladesh and other local, national, and international organizations that provide funds for development in the region. Second, the analysis of academic discourse of indigenous knowledge will help answer the question how does the concept manage to gather so much attention from every corner and yet to achieve what it intends to achieve as a weapon for development. So, this research has implications for the Mandi, academics interested in the Mandi, indigenous knowledge or indigenous communities as a whole, local and global institutions working with the Mandi and with indigenous communities worldwide, and the government of Bangladesh and other low income countries with indigenous communities.

The study is based on the review and critique of indigenous knowledge and ethnographic field work on the Mandi in two villages of Madhupur, Bangaldesh. The fieldwork involved observations, interviews, and focus group discussions. The qualitative data obtained revealed the vast knowledge of the Mandi farmers about their land, crops, climate change, tree coverage and crop production. I also found that they have given up their traditional shifting cultivation for newer agricultural practices that they had to learn. Although they possess knowledge about both forms of agricultural practices though they did not regard these as knowledge because, according to their definition, knowledge comes from books and they did not have such knowledge. This position can be explained by the theoretical notion in my first query of how indigenous knowledge represents a theoretically untenable dichotomy based on the way of looking at the world through western lenses. Their knowledge is similar to the knowledge of any farmer any where in the world and relegating this knowledge as indigenous is not even significant for these farmers. Therefore, Mandi farmers' perception of indigenous knowledge helped me to explain how unreal the dichotomy of indigenous and scientific is and how indigenous knowledge, after being criticized for over a decade, is still important in both local, national and international agenda for development of the indigenous communities, including the Mandi of Bangladesh.

On the basis of this empirical example from the Mandi following my theoretical search, I step towards the last research question of how this concept of indigenous knowledge is used as a weapon by both sides of development apparatus. The Mandi, like any other indigenous community depends on their indigenous identity to unite and fight for their rights since this concept gives them a green romantic make over and this same

concept is being used by the government, non-government and global agencies to bring remote areas like Madhupur forest under the direct control of market economy opening up the indigenous habitats using agenda of indigenous knowledge for development.

Review of Literature

The review of literature is presented in two parts. The first examines different perspectives about the relationship of indigenous knowledge and environment and the second, elaborates the literature on a selected indigenous group, the Mandi. This part of the literature review provides background information about the Mandi before elaborating the empirical findings collected from field research among the group.

Indigenous Knowledge

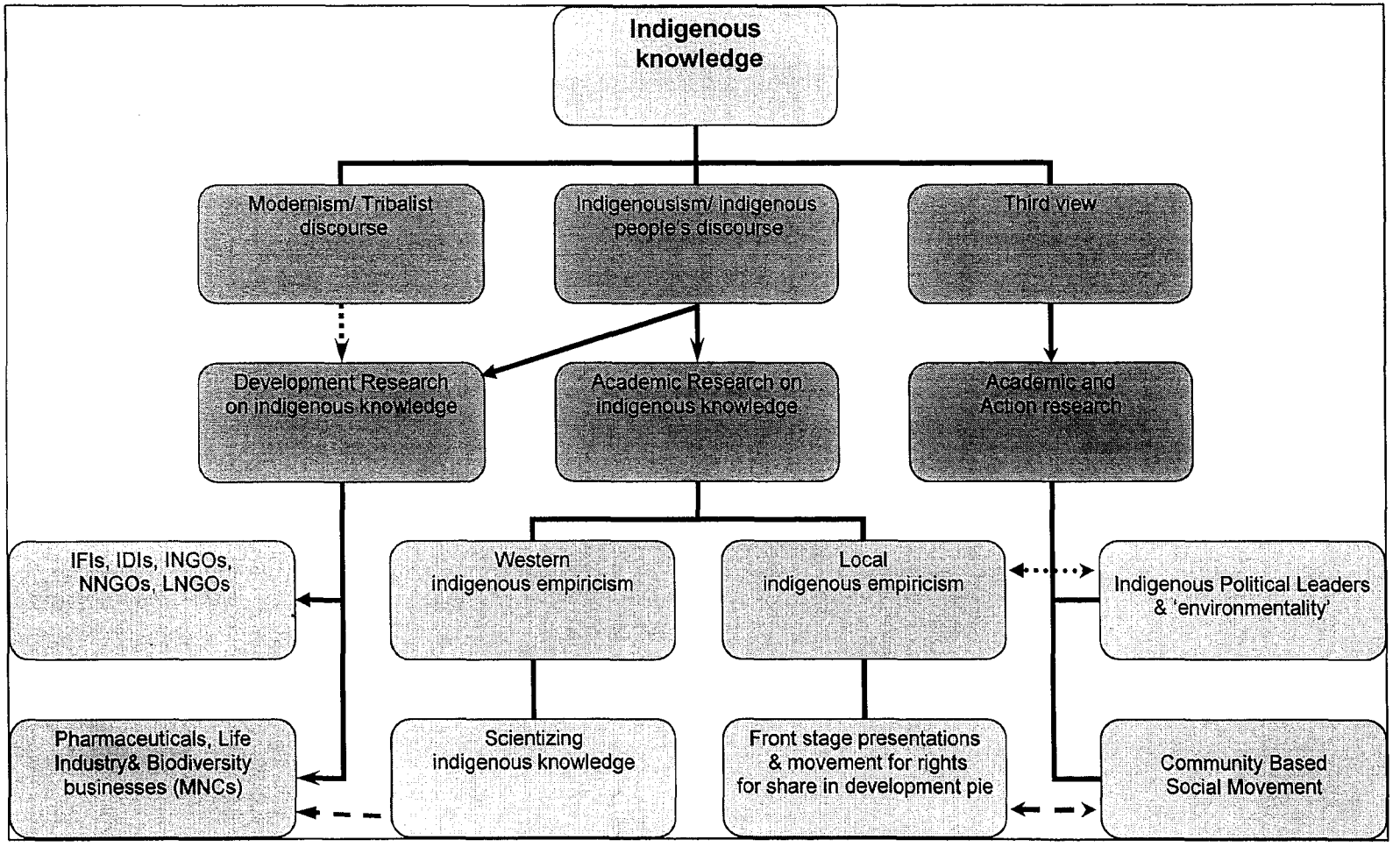
There is no one definition of indigenous knowledge Since indigenous knowledge still stands on contentious and disputed ground I came across the following terminologies in existing literature that have been used interchangeably and with shared intersubjective understanding with the term indigenous knowledge - traditional, local, folk, indigenous environmental/ technical knowledge, ethnoscience, rural peoples' knowledge, etc. But I shall use the term indigenous knowledge instead of one or the other of all these variants following Ellen and Harris (2000) that they all refer to the same focal semantic space (Ellen and Harris 2000:2). A very early definition of indigenous technical knowledge by Howes and Chambers (1980) regards indigenous knowledge as the result of a general intellectual process of creating order out of disorder and not simply as a response to practical human needs (Howes and Chambers 1980: 324). According to Grenier (1998), indigenous knowledge is the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men localized for generations to a particular geographic area. Such knowledge systems are cumulative, representing

generations of experiences, careful observations, and trial-and-error experiments. New knowledge is continuously added to this system of knowledge (Grenier 1998:1).

Ellen and Harris (2000) were more specific in defining indigenous knowledge as local environmental knowledge (knowledge of plants, animals, soils and other natural components) with practical applications, rather than the more encompassing sense of indigenous knowledge associated with environmental philosophies or world views, or even indigenous technical knowledge (ITK) in its wider sense(Ellen and Harris 2000:29).

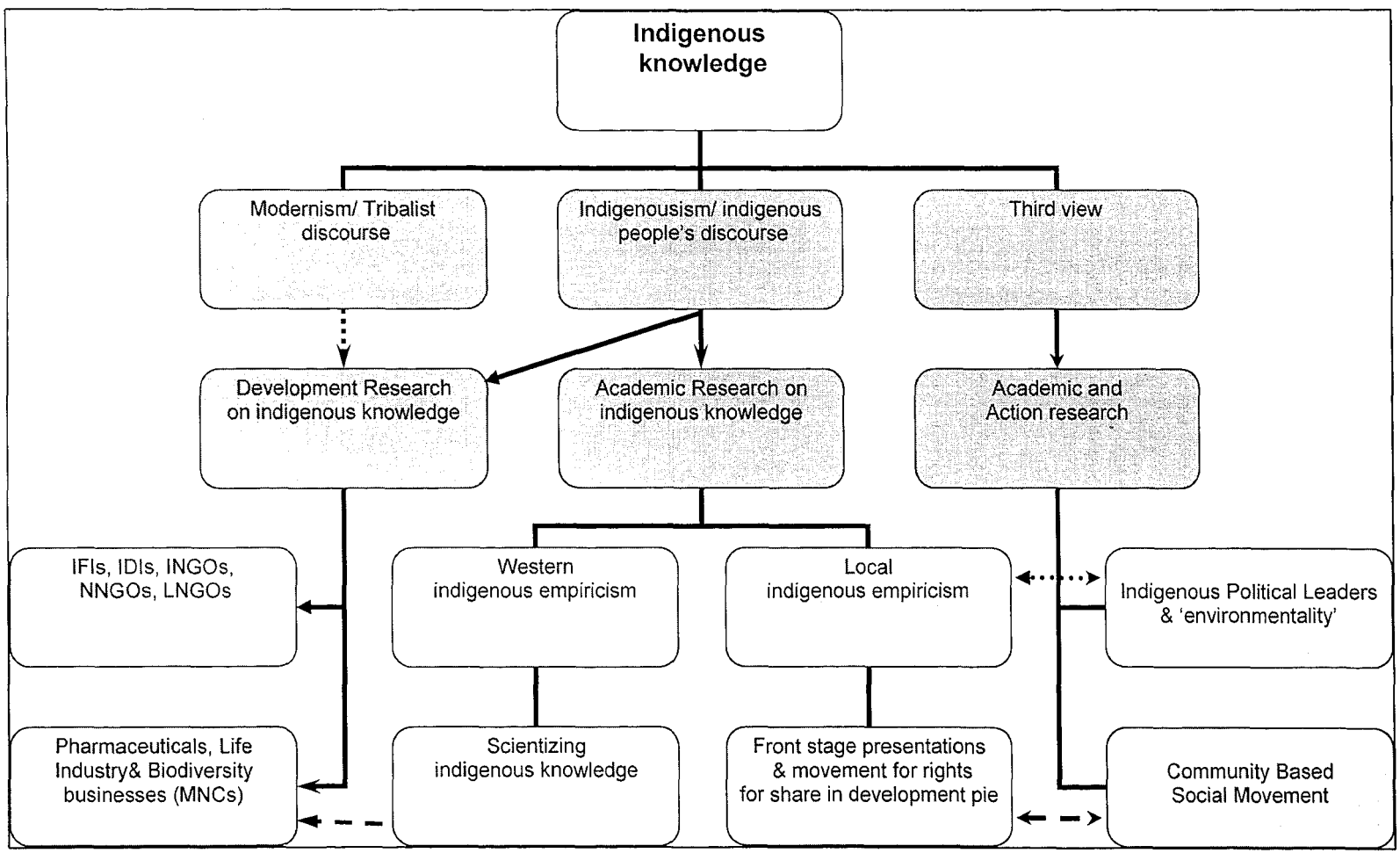
Before moving into the discussion of this concept, and the debate about its history and usage I present here the theoretical framework of this research.

Figure 1: Theoretical framework of my research



INTENTIONAL SECOND EXPOSURE

Figure 1: Theoretical framework of my research



Background of indigenous knowledge

Indigenous knowledge as an object of study has emerged in the development literature for about 20-30 years (Jerrome 1996, Sillitoe 1998, Berkes *et al.* 2000, Agrawal 1995a, Agrawal 1995b, Dove 2003, personal communication with Agrawal 2005). The use of the term 'indigenous' began with Robert Chambers's group at the Institute of Development Studies in 1979 influenced by the disillusionment with the top-down development practices common in the decades of counter culture of 1960s and 1970s (Warren 1998 in comment on Sillitoe 1998). From late 1980s through 1990s the concept gathered attention and significance in the new global development discourse.

Top-down development projects framed within the high modernistic ideology began to show signs of failure around the world by the end of 1970s due to the lack of understanding of local situations and reliance on inaccurate misconceptions and erroneous information (Ferguson 1997, Grenier 1998, Scott 1998, Zuberi 1998 in comment on Sillitoe 1998). As a result development activists started to look for 'alternative wisdom in development initiatives' for their projects' success. Indigenous knowledge for sustainable development served this purpose and emerged as a significant focus of study in the past decades in the development discourse around the globe (Grenier 1998).

Contemporary attention to indigenous knowledge is also a result of its connections with development and environmental concerns. This shift came after centuries of easy dismissal of the indigenous and what it signified (Agrawal 2002). This new recognition of the indigenous is partly due to the understanding that such knowledge can contribute to the conservation of bio-diversity, rare species, protected areas,

ecological processes and to sustainable resource use in general (Berkes *et al.* 2000). Moreover, agro-chemical, pharmaceutical, food and seed industry that is termed as the life industry—all share common interest for indigenous knowledge due to scientific and economic reasons (Figure 1, p. 10). Since the US Supreme Court ruled in 1980 that a human made strain of microorganism could be considered a patentable product, the life industry had become interested in indigenous knowledge. Because of this rule, regulated and unregulated bio-prospecting in the South became possible in a profitable way (Grenier 1998). On the contrary, growing political mobilization among people of indigenous origin also took up the opportunity to utilize this concept as a political platform and a weapon for pursuing and lobbying for their rights in local, national and international development discourse (See Figure 1).

According to Dove (2002), the concept of indigenous knowledge has gone through a developmental cycle, in which it was first more useful and then subsequently less useful. Originally conceived as a radical conceptual breakthrough this concept succumbed to growing critiques, disillusionment, and rejection. Initially, the concept was a deconstruction of a heritage, a heritage of denial. Overtime, this deconstruction became less deconstruction and more heritage (Dove 2002: 350 - 357). From a conceptually innovative tool, indigenous knowledge in two decades turned into a hackneyed dichotomy summarized eloquently by Ellen and Harris (2000) as "indigenous knowledge is dead, long live indigenous knowledge".

The debate

There has been considerable debate about the content, usage and impact of indigenous knowledge in development of indigenous communities. There are three different perspectives in this regard. The first view (from this point will be called the Modernism) disregards indigenous knowledge as superstition of savages that threatens the ecosystem (for discussion see Dove 1983 cited in Ellen *et al.* 2000, Howes and Chambers 1980, Masipiquena *et al.* 2000 and Bal 2000). The second view (Indigenousism) suggests that indigenous knowledge is inherently conservationist and is in harmony with the eco-system (Grenier 1998 and Sundar 2000). However, according to a third perspective (Third View), dividing knowledge between scientific and indigenous is not tenable since scientific knowledge cannot be separated from its indigenous base (Agrawal 1995, Bal 2000, Ellen and Harris 2000) (for summary see Figure 1, p. 10 and Table 1, p. 17).

Modernism

The inherent ethnocentrism and elitism of twentieth century global science presents a heritage of denial, which has been justified by methodological reductionism and evaluative process in the realm of scientific knowledge that render indigenous knowledge as "unscientific". During the late European colonial period, in scientific fieldwork at South and South-East Asia, traditional local knowledge was evident but mute since the source of such local knowledge in the scientific literature was not specified and indigenous sources were almost never referred to. But with the inexorable rise of modernity at the end of colonial era, this knowledge became relegated to ignorance and

superstition. Drawing from modernist approach to civilization, indigenous knowledge was seen as savage superstition that was useless and negligible compared to the useful scientific knowledge. In this era of modernism, tradition needed to be overcome, rather than encouraged. For more than fifty years, development or modernization models were based on knowledge generated in laboratories, research centers and universities and only then transferred as technology to ignorant peasants of the underdeveloped world (Chambers and Richards 1995 cited in Ellen and Harris 2000). To the proponents of high modernism based development projects indigenous knowledge appeared to be inherently mystical and irrational (Horton 1967 cited in Howes 1980) (for more myths about indigenous knowledge see Table 1). Some thought scientific knowledge was superior to this sort of indigenous knowledge (Howes and Chambers 1980, Brokensha and Riley 1967 cited in Howes 1980). To these scholars, indigenous knowledge had little scientific validity and had negative impact on the environment via abusive practices such as use of fire in the swidden fields and overexploitation of the resource base (Masipiquena *et al.* 2000). Indigenous subsistence practices were regarded as wasteful exhaustion of resources because of the conscious indifference to the environment rather than a consequence of poverty or insufficient resources (Ellen and Harris 2000). Such views were widespread until western scholars became interested in traditional knowledge because of the failure of top-down development schemes and the crisis in the high modernist projects of science and technology envisioned by the western scholars (for details on the failures of development see Scott 1998). For example, green revolution technology brought about extensive utilization of natural resources but caused ecological deterioration, economic decline at local levels, poor diets and nutritional losses in the

developing regions of the world. Moreover, development plans put unprecedented amount of pressure on the planet's soils, watersheds, etc (Grenier 1998). Soon the romantic view of indigenous people and their nature came into the forefront of the development rhetoric that affected politicization of indigenous groups and indigenous rights movement.

Indigenousism

Some scholars referred to the emergence, growth and contemporary attention to indigenous knowledge as a 'revolution' occurring in the field of development (Sillitoe, 1998). This romantic view defines indigenous knowledge as 'people's science' and proposes that this knowledge is better than the western scientific understanding. People with this knowledge are not merely technicians but also scientists who have a complex set of classifications and abstract philosophical ideas which can provide systematic accounts of various aspects of the world (Sundar 2000). Indigenous knowledge is now seen as a way to preserve nature and environment because traditional, indigenous or primitive people are in some kind of idyllic harmony with the nature (Bessaignet 1964 cited in Bal 2000, Ellen and Harris 2000). Because of this harmony, indigenous people can identify plant life, their uses, and relationship with the wider eco-system better than the western trained scientists. Indigenous knowledge is also regarded to have comparative advantage over scientific knowledge in assessing changes in eco-system. Therefore, the proponents of indigenousism suggested using indigenous knowledge as the 'eyes and ears of science' (Howes 1980: 337). For both western and non-western elites alike, indigenous knowledge refer to great traditions – a tradition of acceptance where whatever is

indigenous is good and significant for development through the lenses of a bottom- up approach. This grass root-focused paradigm of indigenousism emerged from market liberals, who promote market forces and decry state interventions along with the neo-populists who advocate participation and empowerment. This view envisioned connecting local peoples' understanding and practices with those of outside researchers and development workers by recording and scientising the useful and best indigenous practices (Sillitoe 1998). This view stems from the fact that the survival of both indigenous people and wildlife side by side had been taken as a proof that the former are conservationists of the later (Kalland 2000:324). This tradition is articulated through the voices of governments, NGOs, scientists, citizens and those who claim it to be their own. In this new vision, indigenous people are given central focus *because of* rather than *in spite of* their cultural difference. This vision is further enhanced by anthropologists and other development professionals who make indigenous knowledge more acceptable to the technocratic consumers with catch words like 'participation', 'empowerment', 'bottom – up', etc. that can be slotted into western paradigms regardless of the decontextualization, and danger of oversimplification and over generalization (Figure 1, p. 10).

Although the proponents of indigenousism formulated their theory in opposition to both the modernization and Marxist theories of development and modernistic theories about indigenous people, they inherited the same dualism of tradition vs. modernity by relegating the knowledge of indigenous people as something different (less) than what they called 'scientific' and by unifying a wide range of diverse knowledge and practices of varied communities under the same umbrella concept of indigenousness (Bal 2000).

Table 1: Myths of indigenous knowledge

Modernism/Tribalist discourse	**Indigenousism**	**Third View** **(Debunking myths)**
Indigenous knowledge is *superstition* of *savages*	It is the *science* of *people* though it is not *just science*	Dividing knowledge as indigenous and scientific is untenable because of erroneously summarizing very diverse sources of knowledge under two broad categories
There is no scientific element in it	• more scientific than western *science* • lesser than scientific in substantive, methodological, epistemological and contextual grounds	• This division results from inherited dualism of tradition vs. modernity • *Indigenous* and *scientific* cannot possibly be untouched by and separated from each other
Indigenous knowledge is traditional and static, these are like weeds in the field of knowledge cultivations.	Indigenous knowledge is traditional and static, therefore can be preserved by recording and codifying these.	Local knowledge is so local that it loses distinctiveness if it is archived Indigenous knowledge is reification of traditional knowledge
Indigenous knowledge-based practices depletes forests and soil and is destructive to the environment	Indigenous knowledge is inherently conducive to environment	Only indigenousness can not explain people's relation with environment
Forests and natural resource bases have to be protected from the exploitation by indigenous practices	Conserving indigenous knowledge will conserve nature and environment	Existing economic and political relations need to be taken into consideration while environment is concerned
Detrimental to development efforts	It has great utilitarian value for bottom-up sustainable development efforts	Autonomously generated community participation oriented towards change in power relations, through social movement can bring positive change

Third View

Agarwal's (1995a, 1995b) pioneering criticism of indigenous knowledge dismissed the idea that knowledge can be divided into indigenous or scientific. He argued that it is ridiculous for any knowledge to be forever marked or fixed as 'Indigenous' or 'Western'. Indeed, he suggested that the attempt to create distinctions in terms of indigenous and western is potentially useless. It is a contradiction that the same knowledge can be classified one way or the other, depending on the interests it serves, the purposes for which it is harnessed, or the manner in which it is generated. Western scientific knowledge and the procedures of generating such knowledge served western interests. To privilege this over other forms of knowledge and procedures of knowledge generation (as indigenous) is ethnocentric.

Dividing knowledge into indigenous and scientific is as inherently flawed as it polarizes the world into traditional and modern societies. Source of *indigenous - scientific* dualism can be traced back to the dualism of *tradition – modernity* in theories of modernization, dependency and other marxist, and neo-liberal theories about "development". Escobar (1995) detailed the anthropology of modernity in the late twentieth century and showed that concepts like development, market, third world, etc. are western constructs used to differentiate the west from others and this difference create the dualism. As the concept of development itself is an ethnocentric one, so is the dichotomy between tradition and modernity. Encountering development related concepts with their western philosophy-based connotations exemplify the dualism and contradictions present in development discourse. This sort of western knowledge gives rise to the false distinction between scientific and indigenous knowledge. The second

perspective of Indigenousism came from the neo-liberal notion of sustainable development. Sustainable development is a new powerful but controversial theme that represents a global concern. Achieving this end requires autonomous participation from the grassroots with their organized social movements to support development. Such development requires local participation that is inherently political (Agrawal 2005). People's participation in both planning and implementation of any project is necessary for it's sustainability which is seldom achieved because of the 'otherness' of the indigenous participants to the western or western-trained scholars executing the project.

Agrawal (1995a) also argued that rather than distinguishing between scientific and indigenous knowledge, it was more sensible to discuss multiple domains and types of knowledge with differing logics and epistemologies. Drawing a strict line between scientific and indigenous knowledge on the basis of method, epistemology, context-dependence, or content, is untenable (Agrawal 1995a, Agrawal 1995b, Agrawal 2002). Moreover, because of the contact, variation, transformation, exchange, communication, and learning over last several centuries, it is impossible to see indigenous and scientific knowledge as separate. With this dichotomy we are forced to see many diverse ways of knowing as only two types. But this division occurs as a result of the dualism of development (tradition vs. modernity) as scholars in the development discourse (different from the academic discourse described by Ferguson 1994) regard indigenous knowledge as an ideological and technical weapon to make intervention easier, lead state to reach out and open up the remote indigenous communities to participation in the market that neo-liberalism advocates. The first two perspectives about indigenous knowledge draws the dualism in knowledge from their scholarly origins in modernization or dependency

perspectives that overrides the development problematic even after decades of criticisms.

Ellen and Harris (2000:7) stated that the epistemic origin of much knowledge is hidden and this anonymity has contributed to the emergence of a perceived divide between the scientific and indigenous. Much of what we recognize as scientific knowledge of the natural world was constituted during the eighteenth and nineteenth centuries in a way that absorbed pre-existing local knowledge. Part of the residue re-emerged as recognized folk knowledge in the late twentieth century and has been subjected to the kind of cultural revival I already referred to in the preceding section. Ellen and Harris (2000) also provide ample evidence about transforming European botanical science through contact with South Asian methodologies of classification during the colonial era. But given the long history of mutual knowledge transfer going back to ancient times, any division between European and Asian botanical systems must be construed as arbitrary. Driven by the "scientific" fervor of twentieth century, western or western-trained scholars could rarely recognize such mutual give and take in the pursuit of scientific knowledge that was responsible for undermining the validity of indigenous knowledge as a concept under study, which was reversed at the end of the twentieth century through the revival of the indigenous (Grenier 1998, Agrawal 2002).

The concept of indigenous knowledge implies a system that is static and outside history because dividing indigenous from non-indigenous knowledge obscures power relations, interactions and contestation between them. The concept of indigenous knowledge, therefore, glosses over differences in self interest as differences in knowledge and represents political challenges of authority and rights as a pedagogical challenge to reveal unrecorded indigenous knowledge (Dove 2000: 230-236).

Since different communities residing even in the same ecological environment can have different indigenous knowledge bases, or different interpretations of the similar knowledge or practices, demarking the territory of the concept, indigenous knowledge becomes problematic (Howes 1980 and Ellen and Harris 2000). For example, Nicolaisen (1997) and Brosius (2001) studied the effect of timber logging among two different groups in the same area in Malaysia. Nicolaisen's (1997) study showed the presence of reverence among the Punan *Bah* for the environment, jungle and in their worldview and societal stratification. But Brosius (2001) saw no reverence or sacredness in the Penan's interpretation of the world or environment. Both these groups lived in the same area in Sarawak, Malaysia and had similar religious beliefs. But when the Penan resisted excessive timber logging to save their homes, the Punan Bah living in the same area accepted such logging and were involved in it even though they recognized the harmful affects of logging on their sacred environment. While for the first group (the Penan), traditional knowledge motivated their resistance, for the second (the Punan Bah) it made them more ambivalent about their rights as they were obligated to respect the elites who patronized the timber merchants. Indigenous knowledge can then be very diverse in its interpretation of similar events. Therefore, grouping the very diverse set of indigenous values and knowledge into one broad category obscures the diversity.

These inconsistencies in the concept are even more prominent when enthusiasts of indigenous knowledge step forward to 'scientize' whatever they construe as indigenous. They remove indigenous knowledge from its social, cultural and political context. Turning this 'parochial' and 'relative' local knowledge into scientific knowledge is difficult, if not impossible. Recording, codifying and abstracting such knowledge

detaches it from its locale, generalizing it and making it non-indigenous and non-contextual (Agrawal 2002). However, scientizing indigenous knowledge through database creation to develop local capacity to capture indigenous knowledge and eventually to disseminate such knowledge for wider use has practical, epistemological and political effects. First, creating databases separate indigenous knowledge into what is perceived as practically useful and the rest erasing the diversity in indigenous knowledge. Second, indigenous knowledge gathering practices are no more nor less than any other scientific pursuit. So, by creating databases of indigenous knowledge the indigenousism submit to the power and superiority of science because it focuses on knowledge and its epistemological status rather than on interests and politics. Ultimately, by demarcating useful versus useless knowledge of the indigenous people through 'scientizing' it, knowledge is separated and saved from the people, and after that there is little reason left for the development practitioners to pay much attention to the indigenous people. Thus documenting and 'scientizing' such knowledge channel resources away from more crucial political task of transforming existing power relations and provide a means to more powerful social actors to appropriate useful indigenous knowledge (Agrawal 2002).

The belief that scientific knowledge can change the social processes is the basis of development. So following the proponents of indigenousism if we scientize indigenous knowledge and formulate appropriate technology towards development of the indigenous people, we depoliticize the process of social change by relegating it into a mere mechanical process of 'take-off'. This mechanical process can never address the imbedded power inequality between the indigenous and non-indigenous people that is

responsible for the very existence of indigenousness of these people. In the end we open up the indigenous livelihood for bio-prospecting by the life industry and development prospecting by the NGOs. This also gives the indigenous people a false sense of identity of the illusion that they can fight for their rights through the use of this concept. I develop more about how the use of indigenous knowledge works as a weapon for the both sides of the development apparatus; international funding agencies and other financial as well as commercial authorities and on the other side, the people who regard themselves as indigenous and possessing the knowledge being appropriated; after my discussion of how does indigenous knowledge function within a specific indigenous community, the Mandi.

The Mandi: in literature

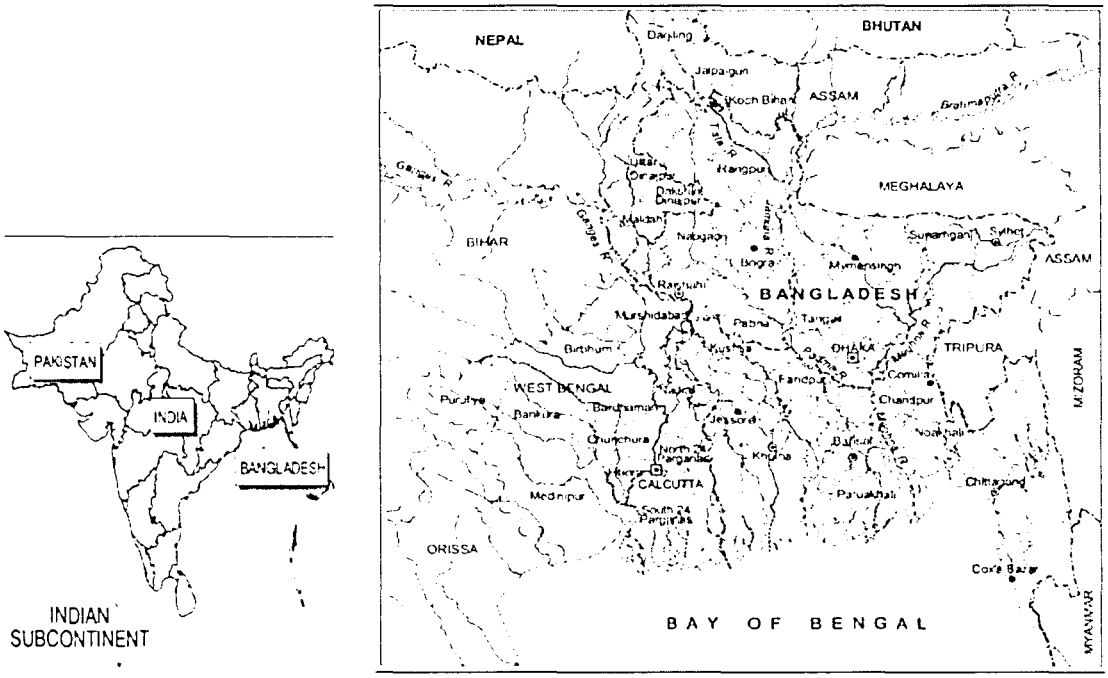
My research focuses on the Mandi of Bangladesh to provide an empirical understanding of the history, use and role of indigenous knowledge as a concept bringing and sustaining development in the region. The literature on the Mandi is presented in this section as a background of the empirical study among the Mandi.

Bangladesh, a Least Developed Country (LDC) of South Asia (Figure 2), has about 20 - 56[1] different indigenous tribal groups (Bal 2000:10) apart from the majority population of Bangla (Bengali)-speakers or the *Bangalis*. My research is on the Mandi, a matrilineal ethnic group living mostly in North Central Bangladesh. Other ethnonyms are: Garo and Mande. The Bangalis tend to call them Garo but according to Burling (1997:3), Garos of Bangladesh, no longer wants to be called "Garos". This is the outsiders' word, not their own and since their experience with outsiders has sometimes

[1] The broad range may be the result of the ongoing debate about some community's indigenous identity.

been unhappy, they resent the term Garo. In this research I am using the word 'Mandi' to refer to this group because this is the word they use to refer to themselves. The word 'Mandi' like many other indigenous names means human being. Most of the Garos still live in the Garo Hills of India but some began migrating across the northern border of Bangladesh around a couple of centuries back (Burling 1997 and Bal 2000).

Figure 2: Bangladesh in South Asia

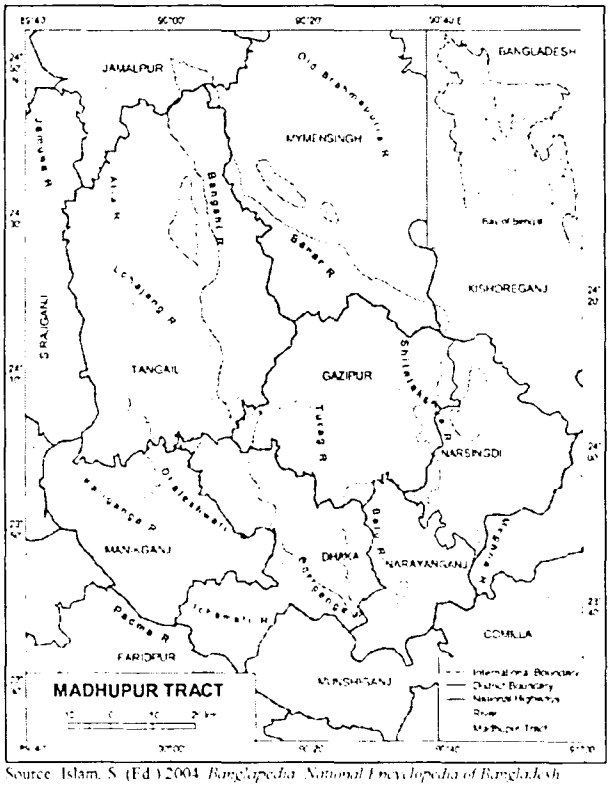


Source: Islam, S. (Ed.) 2004. *Banglapedia National Encyclopedia of Bangladesh*. Multimedia CD, English Version. Asiatic Society of Bangladesh: Dhaka

In Bangladesh, there are about 100,000 Mandis who lived mainly in the old Mymensingh district and in its bordering areas of the Indian State of Meghalaya at the southern edge of the Garo hills and adjacent plains (Burling 1997: 4). Gradually, they have spread through Mymensingh, Netrokona, Sherpur, and Tangail districts. Many of them, however, once living in the Bangladesh territory, migrated back to the Indian state of Meghalaya especially during the war of liberation in 1971 (Islam 2004). The Mandi

are a distinct group differing from the majority Bangali population not only in their physical features but also in their social, cultural and economic practices. Physically they are closer to the South East Asians than South Asians. In the recent past, they used to do slash and burn agriculture but now mostly do wet rice cultivation in the low lying lands of the Madhupur forest (Figure 3). They often grow cash crops like pineapple, banana, etc. on their higher lands. Although their rice agriculture hardly differs from their Bangali neighbors, Mandi women continue to use agricultural knowledge and practices learned during the slash and burn period in their homestead gardens (Bal 2001). The Mandi women are more out going, confident, and willing to interact with outsiders than Bangali Hindu or Muslim women (Figure 4). Burling (1997), one of the few anthropologists who have studied the Mandi, saw the strength and openness of the Mandi women as one of the most appealing features of the group.

Figure 3: Madhupur Tract



Source: Islam, S. (Ed.) 2004. *Banglapedia: National Encyclopedia of Bangladesh*. Multimedia CD, English Version. Asiatic Society of Bangladesh, Dhaka.

Christianity and changing government policies have had the largest impact on Mandi communities. Unlike their neighbors, more than 90 percent of the Mandi are Christians (Bal 2000). With Christianity came schools, and with education, Mandi youth began to leave farming to take paid jobs in the cities—a trend that continues. The local

situation was in turmoil during the liberation and the successive military coups after independence that changed their livelihood no less than their Bangali neighbors. Government eco-tourism policies led to building of eco-parks in the forest and the removal of the Mandi's generations-old land rights. While these programs were challenged and resisted, still the government programs in agriculture, health and education remain significant aspects of their lives and livelihood.

The Mandis constitute less than one tenth of one per cent of the population in Bangladesh, a tiny minority among more than one hundred million Bangladeshis (Burling 1997). Inevitably, the Bangalis have a far larger presence in the day-to-day life of the Mandis than Mandis have in the lives of Bangalis. While the Mandis must deal with Bangalis at every turn, the Mandis are almost invisible to most of the Bangalis. This fact influences the way the Mandis see themselves and their neighbors. Bal (2000) described Garo

Figure 4: Mandi Men and Women

self image as part of her analysis and critique of 'Garo' as a social category. Although she does not talk about indigenous knowledge, her discussion of the tribalist and indigenous discourse and how these shape the *Garo* discourse can easily be compared with my argument about indigenous knowledge and its contradictions since they have for

having similar theoretical underpinnings. Bal (2000) identifies tribalist discourse as the way in which the image of indigenous groups as primitive and isolated people without history has been reproduced by scholars, South Asians, and even tribal people themselves. Even though historical scrutiny refutes the very notion of a tribal category in South Asia, South Asian perceptions of tribe have remained remarkably uncontested. Her close scrutiny of the discourse on *Garoness* reveals that their perceptions and presentations of collective self reflect a number of elements of tribalist discourse. Even backstage or private *Garo* perceptions of self include aspects of the dominant tribalist discourse. Concretely, the history of the Mandis of Bangladesh shows that their contemporary notions of 'Garoness' are by no means a reflection of 'a primitive people without history' but the recent outcome of the convergence of colonial and indigenous categorizations through the complex interaction of colonization and resistance, decolonization and state-formation, ethnicism, Islamization, Christianization, and modernization (Bal 2000).

The Mandi self image described reflects the difference between the image they wish to convey to outsiders (front stage) and the image they have of themselves (backstage) (Bal 2000). In backstage discourse, Mandi present their identity first as primordial - fixed by birth and tied with nature in a deterministic and unchangeable way and, second, as a pure tribe but in the process of loosing their distinct culture which is seen in 'feeling Garo, acting Bangali' image. But in the public image of the Mandi in national, international media, politics and public debates the Mandis emphasize these: first, they have outgrown their primordial tribal identity and became *modern*, second, the

Mandis as proud minority have been victimized by economic and political developments and, third, they are inextricably linked with nature and so cannot live without forests (Bal 2000). Although the Mandi self image depends on being a pure natural tribe, but because *tribal* has a negative social connotation leads them to create the public image that they have outgrown tribalness. Memories of victimization by the Bangali Muslims motivate the Mandis to project images of their vulnerability so that state, national and international development and humanitarian organizations can help protect them from the hostile majority (Bal 2000). This is especially significant for my research where I argue that indigenous knowledge (front stage discourse of Garoness) is used as a weapon for the indigenous communities in their struggle for rights. The third front stage image of Mandis as 'the children of the forest' is crucial for the group of Mandis living in Madhupur to make sure that their forest does not become an eco-park which would mean their eviction from their houses. My argument is not in favor of the eco-park, an essentially high modernistic project of the government; but to emphasize how indigenous people utilize the catch words of indigenousism to protect themselves against such projects. The establishment of eco-parks in other indigenous habitats in Bangladesh has been postponed partly because other indigenous groups successfully projected their image of being 'children of the forest' (for discussion about eco-parks in other areas of Bangladesh see Chakma, 2004).

Mandi: a Case Study

Ethnographic research on agricultural practices, indigenous knowledge and environment of the Mandi was conducted in two villages of Madhupur in Tangail district of Bangladesh in summer of 2005. This research included interviews with Mandi farmers and Bangali executives of non-government organizations as well as observations of Mandi farmlands and homesteads to get an understanding of the popular crop in that season and to learn about current cropping pattern. In addition, six (6) focus group discussions (FGD) were performed with Mandi farmers of different age and sex groups from two adjacent villages - Gayra and Beribaid in Jalchatra at Madhupur.

The research problem aimed at studying the function of the concept 'indigenous knowledge' empirically in a particular indigenous group. This ethnographic account sought evidence to support the theoretical argument I made about the rhetoric of the concept of indigenous knowledge. The Mandi as a group was selected because of personal acquaintance and convenience. The participants in the study were chosen using a snowball sample after selecting the key informant. Since I came from Bangladesh, I used my contacts to decide the area and participants for my research. At the very beginning, I talked to Professor Lutfur Rahman, Principal Investigator of a Soybean Project among the Mandi people. His project has a production unit in Madhupur and the Mandi are his contract growers. After talking to him, I decided about the probable age groups that I wanted to study and how I could reach these people. Then I went to Mymensingh and talked to Mojibor Rahman who is the Program Officer for the 'soybean project'. He contacted their contract growers in Madhupur and set up an appointment

with a Mandi couple who are the lead farmers in their village. Mr. Mujibor Rahman also contacted the local NGOs to collect information from their program officers. I talked to the Mandi couple, who became my key informants, first to get an idea about the Mandi way of life and the way they perceive agriculture and environment. Then I interviewed two program officers from two organizations and six focus group discussions of three age groups divided into sex differentials from two villages of Madhupur (See Appendix 2 at page 61 for the time line).

Due to the weather extremes, time and resource constraints no other contrasting groups could be studied. Taking into consideration of the limitation of one case based research I consider this case study to be the essential first step towards an empirical understanding of functioning of indigenous knowledge.

Methods

The study included observations of Mandi farmlands and homesteads to learn about the popular crop in that season and the pattern of agricultural practices. The process of marketing, including the transportation of agricultural produce from the remote areas of Madhupur tract, was also carefully observed. In order to keep record of the observation, pictures have been taken.

Semi structured interviews of two local Mandi farmers and two employees of two NGOs that work with the Mandi were performed separately. One male and one female Mandi farmer were interviewed at the very beginning of the field work. This interview generated enough information to make an informed beginning to study the agriculture and indigenous knowledge of the Mandi in the research area. Questions asked in these

interviews were about the swidden cultivation, the history of use of modern farming methods among the Mandi, and the current mode of agriculture and their perception of the relationship between agriculture and the environment. Interviews of the NGO worker and Project worker generated information about the perception of the NGO and the autonomous University led USAID funded project about the Mandis, their agriculture, environment and Mandi indigenous knowledge. Both the NGO and Soybean Project workers had been working with the Mandi and their area of intervention is basically agriculture for sustainable development of the Mandi. Both projects aimed at increasing the income of the Mandi as fast as possible. The interviews revealed the processes that these organizations perform in order to motivate such development and how they plan, implement and continue their projects.

There were 6 (six) FGDs performed with Mandi farmers of different age and sex groups from two adjacent villages in Madhupur, Tangail. In each of these FGDs the same check list was used. Questions were about the current agricultural practices, their pros and cons, reason for changing from swidden to wet rice and other plantation agriculture, and perception of environment, agriculture and indigenous knowledge. Though the discussions in each groups emphasized different aspects of Mandi life and livelihood, the basic focus was the same. The emphasis was on the current agricultural practices and their relationship with indigenous knowledge and environment. Dividing the participants along age and sex lines revealed differences of opinion and even of facts and experiences. For example, male participants and female participants differed about who used to cut the trees during *jhum* cultivation. Males had expressed general opinion that they used to cut the trees but the females of the same age group reported that during the British rule, the

forest department used to cut the trees for auction and then assigned the Mandi farmers for the shifting cultivation. Both could be true, but such differences of opinion could never be revealed if different sex groups were not contrasted.

Although I am not very enthusiastic about using focus group discussions as a data collection technique, I had no other recourse but to use this method. I had a very short time period for the field work, rainy season was not conducive for research in that area, and I needed to know about the history of the traditional agricultural practices of the Mandis where group view and dialogue was important for my greater understanding. All these could only be achieved if I used FGD (for more details about the advantages of FGD, see Morgan 1996 and Gibbs 1997). Following Catterall & Maclaran (1997), in my research, the interaction between the participants and their behavior within a group setting acted as an important learning experience for me while conducting the six FGDs. The interaction between the participants of the group where the educated school teacher was present was significantly different from any other groups. The participants in this particular group wanted the school teacher to remain vocal about the Mandi way of living as they said they thought they might not remember or might not say it rightly as he could. They also were addressing this man with special respect. My understanding of the inherent power relation resulting from western education within the Mandi farmers could never been achieved if I used other techniques as observation or interviewing in stead.

Mandi: The Ethnography

The data gathered from the review and from the ethnographic accounts of the Mandi, is described and analyzed in detail. No quantitative analyses were performed. Discussion and analysis of findings included both the theoretical and applied side of the concept of indigenous knowledge, its history, usage, and the debates. The ethnographic exploration of the selected Mandi community provides an empirical example of the theoretical critique of indigenous knowledge and development.

Demographic characteristics

All of the participants were Mandi farmers. The range of their involvement in agricultural activities was from 7 months to 60 years. Twenty six (26) of the participants were literate and went to formal schools (Table 2). Considering the remoteness of this community with respect to communication and other amenities of modern life, it is very surprising that about 72% of the participants were literate whereas according to *Statistical Pocket Book: Bangladesh 2002* national literacy rate was 45.3 %. The higher literacy rate among the Mandis is also supported by Burling (1997). This can be attributed to the role of Christian missionaries in spreading education in that region. However, this may be a more recent development since both male and female participants in the oldest two groups had the lowest rate of literacy.

Table 2: Demographic Features of Mandi Farmers 2005

Age Groups			Sex Group		Level of Education		
20-30	31- 70	71+	Male	Female	Illiterate	Elementary- Class 10	Passed SSC*
-	-	11	6	5	8	3	-
-	11	-	6	5	2	8	1
14	-	-	6	8	-	12	2
Total = 36			Total= 18 males and 18 females		Total=10	Total = 26	

Calculated by the author (2005)
* Secondary School Certificate Examination

All of the participants were married. Marriage was reported to be an important milestone as their involvement in agriculture started after their marriage. This was especially significant for the males as they changed their residence after marriage and moved into the wife's house or her parents' house. The Mandi men did not work at their own parents' house because they did not want the fruit of their labor to be enjoyed by the husbands of their sisters.

Land Tenure

The Mandi historically did not own land and whatever land they now hold in possession, they do so without any ownership documents. A 1979 sample survey concluded that in Bangladesh, 20% of Garos (Mandis) do not possess any land, 30% have only homestead land, 30% work as hired laborers and 20% cultivate mortgaged land (Banglapedia, 2004). My study also shows that most farmers did not have land of their

own. They have been cultivating government *khas* (special) lands by occupancy right. After the independence of Pakistan in 1947 from British rule, Madhupur was soon declared a reserve forest in 1952 and a national park by 1961. However, in 1971 with the establishment of Bangladesh, the Forest Department banned the right of entry and usage of the uplands or forest coverage (*chala*) by the Mandi (for types of land in Madhupur see Table 3). The Mandi were forced to remain within the low lying lands of the tract which were also *khas* or land under government's reserve (*khas*) being unsettled. Legally, citizens do not have any possession or usage right to this sort of land. They can only use these with government permission. But both the Mandi and Bangali inhabitants of Madhupur tract consider their usage of the land gives them disposal right and they even transfer, sell and inherit such lands without even having record of rights (ROR) issued by the proper government authority.

However, since Bangalis had better knowledge of the land administration systems, they began to settle in the lands that were once cultivated by Mandis. Mandis were pushed into an extremely disadvantaged position. Because they did not have knowledge of official rules about land tenure and land management systems they suffered even more. However, the Mandi have now started organizing themselves to obtaining land ownership rights for their cultivated land based on the UN declaration for indigenous population. Struggle for land rights is one of the most significant political and social movements among the Mandi in recent years.

Table 3: Types of Land used by the Mandi 2005

<table>
<tr><th colspan="2">Geological Types</th><th rowspan="2">Comments</th></tr>
<tr><th>Government View</th><th>Mandi View</th></tr>
<tr><td>Terrace (1-9 meters above floodplains)</td><td>Chala</td><td>Most of these lands are under forest coverage</td></tr>
<tr><td>Valleys
a. Upland
b. Lowland</td><td>Baid
a. Thaan
b. Naama</td><td>Both the villages studied in this research were in Baid, which is reflected in the names Beribaid and Gayra(baid)</td></tr>
<tr><td colspan="2">Administrative Types</td><td></td></tr>
<tr><td rowspan="2">Khas:
The whole forest is Khas</td><td>Khas or Land without Record of Rights (ROR)</td><td rowspan="2">To enjoy the right of occupancy even in Khas lands the Mandi needs the official Record of Rights (ROR). But the amount of land among them with ROR is very low*.</td></tr>
<tr><td>Recorded or Land with ROR</td></tr>
</table>

Source: Banglapedia 2004 and Author's own research, 2005

*Among 36 participants of my study 15 had ROR of only a part of their cultivated lands

Mandi Agriculture

All 36 participants of the FGDs were farmers, although two of them had other sources of income. One was a school teacher and the other worked as an agricultural wage laborer. These Mandi farmers no longer did *jhum* (slash and burn) agriculture. They were engaged in wet rice cultivation, fruit and vegetable plantations, etc. like their neighboring Bangalis. The farmers said that they stopped *jhum* cultivation and switched

to 'modern' cultivation techniques for the following reasons; the Forest Department of Bangladesh imposed ban restricting the Mandi to enter the forests of Madhupur, Mandi population increased, need for more profitable crop production increased, and social and technological changes took place, etc.

Old Agriculture: *Jhum*

Mandi practiced *jhum* in the Madhupur forest range for generations. According to the oldest participants during the 'days of *jhum* ' site selection for cultivation was based on soil fertility ascertained by the abundance of earth worms in land. Another factor was the number of *sal* trees in that particular piece of land; since the British government has banned cutting *sal* trees. However, according to one of the most educated (SSC pass and teacher) participants the rationale for such taboo emerged from the Mandi consciousness about their environment rather than the regulations of the British rulers against cutting *sal* trees. This reflects the 'children of the forest' image as the front stage discourse of the Mandi as described by Bal (2000) I discussed before.

The Mandi used to grow 5 -8 types of dry rice called *mi-Mandi* (Mandi paddy), eggplants, chilies, cassava, squash, gourd, ginger, pumpkins, millets, jute, cotton, root crops, and other vegetables (also see Burling 1997).

Towards the end of the dry season (in February) after clearing of the forest, the Mandi men and women let the branches of the trees dry and in early March, before the first rains, they burnt the brush and sowed the seeds of their mixed crops and waited for the rains to wash the ashes and fertilize the field. While males cut big trees, the females cleared and helped during burning. Afterwards, from sowing seeds, weeding, manuring

until the harvesting females were more active in the field than the males. The same piece of land could produce crops for two to three years. Since there was a mixture of several crops they harvested these crops in different times so that they had some crop throughout the year. They produced rice in the first two years and often the fertility of the land declined, they cultivated jute in the third year. Rice and jute were mostly for their own use unlike other cash crops like cotton, oilseeds, etc.

Jhum formally ended at the end of Pakistani regime when Madhupur was declared a 'reserved forest' and the Mandi were forbidden to enter the forest coverage. But it was not until the liberation of Bangladesh that the ban actually took effect which is supported by Burling's (1997) account on the Mandi of the same area. However, all the participants from all three age groups reported to have done or seen *jhum* cultivation until early 1980s. There are two possible explanations as follows; either *jhum* cultivation continued to be performed illegally decades after the formal ban, or the Mandi were too fascinated with the idea of telling outsiders about their shifting cultivation and thereby tell stories of their parents as their own.

New Agriculture

The Mandi now grow what the majority Bangalis grow like banana, pineapple, wet rice, papaya, etc., since most of their traditional Mandi crops are either extinct or are cultivated by the Bangalis more profitably. According to the very elderly farmers in Gayra, they do not grow the crops they used to grow during the swidden cultivation as those are no longer profitable. Now the Mandi farmers grow wet rice three times a year; banana, pineapple, ginger, mustard, soybean, cassava, jute, papaya, vegetables and fruits

of different kinds, etc. They grow crops that bring more profit or meet their consumption needs. They grow *boro* rice (High Yielding Variety) in the *naama* or low lands and other crops in their *thaan* or uplands.

With these changes women are less involved in agricultural work. This may be the result of adopting Bangali agriculture where women unlike the 'strong' Mandi women as described by Burling (1997), are less seen outside the household. However, Mandi women still share responsibilities of all agricultural and household decisions and ownership.

They get rice seeds from the government owned Bangladesh Agriculture Development Corporation (BADC). Seeds for other crops like fruits and vegetables are bought from either Bangali neighbors or traders in the marketplace. They no longer preserve seed for the next year. The farmers reported that they use chemical fertilizers, pesticides and hormones only in their plantations or in their rice fields. They do not use them in kitchen gardens or where they grow vegetables.

When the Mandi grow crops or raise livestock for and by themselves, rather than for selling, they mainly use household unpaid labor unless the plantation is too large for family labor. In most cases, hired laborers are neighboring Mandi or Bangalis. When they lease out the plantation to the *mahajan*[2], they are no longer responsible for any input or output of that plantation until the contract ends. Farmers decide to lease out a plantation to the *mahajans* who are always Bangali, when they cannot afford all the input costs for the crops. Supendra Hadima (50), my key informant, leased out his land to *Mahajan* for 7

[2] Traditional money lenders were called the *mahajans*. This term had long been used to denote the usury collectors in rural Bangladesh. This type of usury collecting *mahajans* is very rare now. In its more recent usage, *mahajans* are a group of traders who lend money to someone with a contract in exchange of the money or goods or labor. However, among the Mandi farmers, *mahajans* can be any of the following types: leasers, intermediary merchants of agricultural products, and investors in contract growing.

years for only Taka 50,000 (Bangladesh currency) because he did not have enough money for input costs although he could earn double the amount in 9 -10 months for his banana plantation if he did not lease out the land. This was very typical for the Mandi. This contrasts with Bangali farmers in a different geographical area. These Bangali farmers cultivated their own lands even in the face of declining yields and financial disadvantages rather than leasing out because they saw themselves as farmers which required them to farm (Luthfa 2004). This suggests the importance of determining local systems of mortgaging out.

The decision to produce one crop instead of another was influenced by factors like cost of living and financial strength of the household. Mandi farmers chose the crops that had most potential for better yields and prices. They would grow rice for their own consumption and sell any excess. Income from rice fields are not a major factor. In the case of banana or pineapple plantations, they would prefer bananas over pineapple as bananas have a shorter growth period (9 months) than pineapple (18 months). Moreover, one pineapple plant bears fruit for 3 years while banana plant is fertile for four years, and it bears fruit more quickly and commands a higher price in the market. Although Mandi farmers have no control over the price of bananas or pineapples, the decision made by the capitalist market about the price of these fruits certainly influence their livelihood. Soybean, mustard, indigo, etc. also have similar advantages as banana and Mandi farmers would be more eager to grow these crops.

Marketing of their agricultural produce was not very difficult as they rarely went to the market place to sell. The intermediary traders or *mahajans* come to their houses and fields and buy all their produce in advance at a lower price. Some times the Mandi

farmers work as the contract growers of the *mahajans*.

I find it very fascinating to see the profit motivation among the participants of this study. It was opposite to what I had in mind when I first started with this research question. Subsistence concerns had overridden environmental consciousness. I do not tend to say that these people do not care about their forest, they do. They cannot protect it by being the 'children of the forest' and starving at the same time because they have children to feed, and for this reason they need money which only comes quickly from cash crops like bananas or pineapples. When asked about the reasons behind their adoption of new agriculture, almost all had the same answer, their yields increased significantly. Keeping in mind the dangers of high yielding varieties, I realize that romanticizing about indigenous people who are kept in the idyllic harmony with nature while the western world reaches the stars is as ethnocentric as it is to neglect indigenous knowledge as superstition. All of them described *mi-Mandi* (Mandi rice) with respect and passion but none could be convinced to produce those species for living because that is not a sustainable option today. However, one participant was very enthusiastic about several agricultural rituals of the *jhum* era and was the only person with a job as a school teacher. His discussion of the Mandi agriculture was full of front stage images (children of the forest) of the Mandis. He also described the Garo victimization and vulnerability that supports Bal's (2000) theory about the front stage image of Garoness.

NGO Perspective about the Mandi Agriculture

A program officer of the Mennonite Central Committee, a Christian NGO who had worked intensively among the Mandi differentiated Mandi agricultural practices from

that of the Bangalis. The Mandi did not generally use pesticides in the fields, and even if they do so, they would use in cash crop plantation than in vegetable gardens. They were reported to be more apt to accept compost and organic fertilizers, integrated pest management (IPM) methods than chemical fertilizers and pesticides because of their lack of knowledge of application, taboo against the use, and lack of money to buy from the market. They were reported to be reluctant to cut trees. However, during describing a completely different situation in answering why they always need so much cash, one Mandi farmers revealed that some times the Mandi day-laborers were hired by the big tree traders to cut trees of the forest illegally and when they got caught they needed cash for the trial and other legal costs. Therefore, the romantic notion of the development workers can easily be compared with that of the proponents of the indigenousism.

The program officer of the BAU-USDA Soybean Project stated that the greatest improvement he found among the Mandi was that my key informant Hadima once said he never drank a drop of alcohol in his life. Among Mandis, drinking rice beer is very common, however, Hadima being a Baptist, did not drink. So, being like the Bangalis (who are predominantly Muslim and not allowed to drink) means development to the development workers. This points to the fact that still majority Bangalis are largely prejudiced against the Mandi, not excluding the development workers who work with them.

Environment

The word 'environment' itself was not a significant part of Mandi lives because the Bangla word 'environment' did not seem to be very well understood. However, the

Mandi farmers recognized their relationships with the soil, water, and rainfalls and trees.

Mandi seeds had almost become extinct from the Madhupur forest area. When repeatedly asked about those seeds and varieties, the participants said since they no longer cultivate those crops they did not find any reason to save the seeds. This reveals a very significant point that the Mandi are no more environmentally conscious than the farmers of non-indigenous origin. Their decision is more of a rational choice than being infused by some environmental awareness. Just as during crop selection the farmers would select to grow the crop that had shorter growth period and lower input cost and higher price in the market. In such decisions, environment is a minor issue.

Participants of all age groups reported that the tree coverage of the forest had decreased from what it was before. But younger people found the social environment better now than before in contrast to their elderly neighbors. The youngest farmers, both males and females, credited the spread of education and training of farming techniques to what they feel is a better life and livelihood than their parents.

Knowledge

According to Mandi farmers the Bangla synonym of the word 'knowledge' is something that they did not possess. They reported themselves to be very different from the Bangali and they were very proud to declare that they were Mandi. The qualitative data obtained led me to believe that the Mandi farmers certainly possessed a vast amount of knowledge about their land, crops, climate change, tree coverage and crop production itself and that they learned techniques of agriculture through ancestral teaching and, in recent years, from Bangali neighbors and NGO people. However, they did not consider

these as knowledge (for similar findings see Burling 1997). This, points to the fact that the western concept of 'knowledge' had a different meaning to the Mandi. The concept of indigenous knowledge was also alien to most of the participants regardless of the fact that all the participants were very conscious about their difference from the Bangalis - their indigeneity and tribal descent. The participants opined that knowledge comes from books and they did not have knowledge compared to me who was more educated and knowledgeable. They even asked me to share my knowledge of agriculture with them and enlighten them there by. This was fascinating for me, considering my ethnic origin from a non-indigenous majority of Bangladesh I was completely ignorant about the Mandi way of life and agriculture until I went there and my background in sociology rather than in agricultural science kept me as even more ignorant, for example, about what should be a better crop mixing pattern for their banana plantations.

The Mandi participants have given up their traditional way of shifting cultivation to the newer agricultural practices and they had to learn and adjust even more with the newer agriculture. So now they possess knowledge about both forms of agricultural practices. However, they did not regard this as indigenous knowledge which can be explained by the theoretical notion in my first query of how indigenous knowledge represents a theoretically untenable dichotomy based on the way of looking at the world through western lenses. The Mandi do possess knowledge, but do not recognize it as knowledge because of their understanding of knowledge being something alien (in a western way) to them. But not all of them had the same understanding. For example, the school teacher, who held the romantic view of traditional Mandi way of life, emphasized the sacred and supernatural power of the Mandi rituals and agricultural rites and the

special environmental ties of the Mandi with nature and the forest. He was among the most highly educated participants and also very politically motivated. No other participants talked about the Mandi rituals with such emotional vividness. For example, the very elderly farmers listed the criteria for selecting *jhum* field sites as follows; slope of land, number of *Sal* trees, and abundance of earth worms etc., and the school teacher said that the Mandi farmers used to make decision about the sites for *jhum* based on the dreams they had after performing the site selection rituals. He reminded other participants in his group about the hazard of cutting big trees. He described how someone got killed while trying to cut a very old sacred tree in a nearby village. This seemed to me to be a sign of learning the concept of 'environment' from a green environmental point of view through his political activism, the perspective which was certainly absent in other participants. Bal's (2000) study of Garo self image regarded this sort of indigenousness as the 'front stage' presentation (see Figure 1, p. 10) of the Garo image to outsiders to prove their disadvantaged position in today's world. According to Bal (2000) the front stage presentation of indigenousness stems from the opposition of the tribalist modernism. She also argued that the Garo self image of 'victimhood' and 'children of the forest' was very important for the Garos as through this images they try to interact with the majority and mingle with them without loosing their unique identity of Garoness as well as to gain access to the development pie by participating in the indigenous discourse (Figure 1, p. 10).

Moreover, their recent agricultural practices are no different than any non-indigenous farmers of Bangladesh in terms of crop production and their knowledge about this new livelihood option is also similar to that of the Bangali farmers. So, their

knowledge is not indigenous in especially positive or negative way, rather it is knowledge that any farmers any where in the world could possess about their specific livelihoods. The difference among the Mandi and Bangali farmers lies not in their possession of knowledge, rather in the fact that, the Mandi are deprived by the non-indigenous people through absence of land rights, government sanctions against their entrance to the forest, lack of resources, oppression and violence based on their ethnic identity and social categorization as tribal.

The Mandi use their indigenous identity to unite as a group that provide them with the political platform to struggle for their rights as indigenous people in the era of global attention to their indigenous identity of 'children of the forest' (Bal 2000). However, in the next chapter I show how this front stage image of the Mandi conforming to the discourse of indigenous knowledge is a form of false consciousness from the part of the Mandi. How the Mandi farmers perceive indigenous knowledge helps me to explain why this concept after being criticized for over a decade and not having any significance in Mandi life, is still important in both local, national and international agenda for development of the indigenous communities, including the Mandi of Bangladesh.

Indigenous Knowledge: a weapon for the both

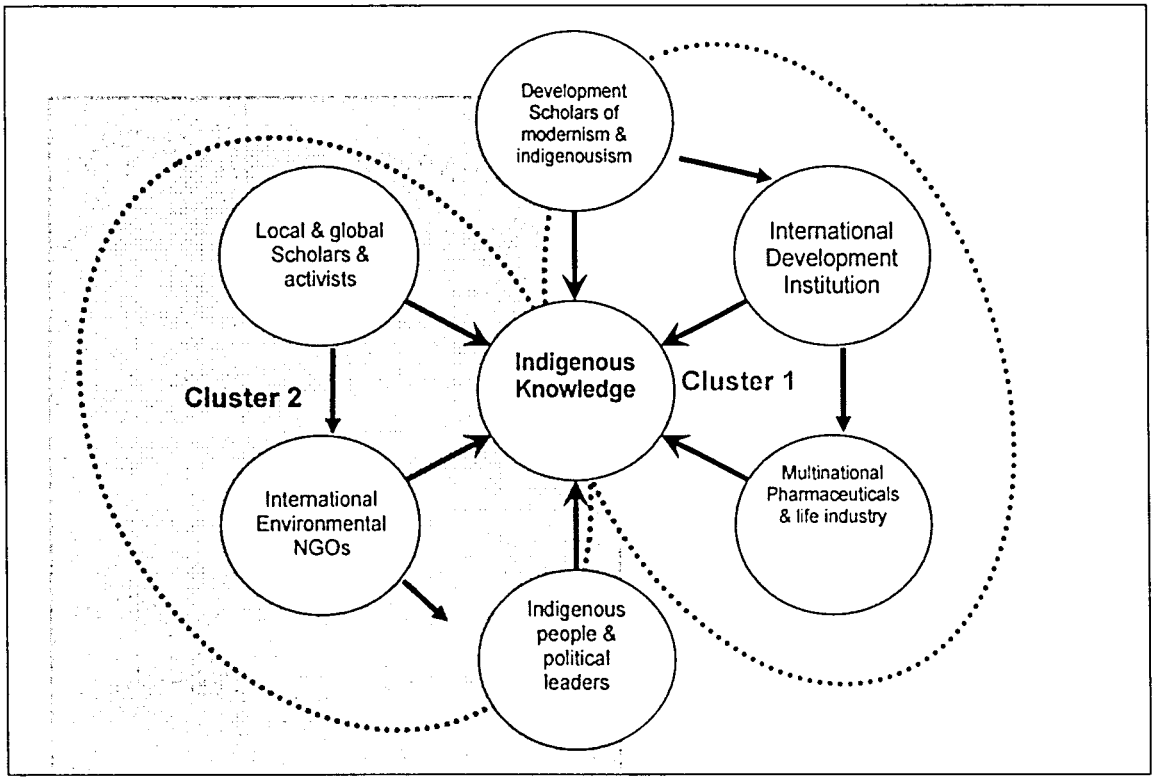
Knowledge is neither static nor an end in itself. It cannot create social change unless other factors like existing power structure, over population, impact of market economy, government policy, etc. are taken into consideration. Moreover, dividing knowledge into indigenous and scientific dichotomy and regarding indigenous knowledge as having either negative or positive impact on environment is an ineffective way to deal with knowledge, agriculture and environment of the people of indigenous communities. However, these are being widely popular in the contemporary development discourse. I present in this section, following up from my theoretical construct in Figure 1 (Page 10), a description of different development actors, different sets of which form clusters and their diverse interests are served by the life cycle of the indigenous knowledge rhetoric.

Cluster one

This cluster consists of academics that I refer as development researchers, international development institutions including international financial institutions like World Bank, international aid agencies like Development Fund for International Development, and national and local NGOs that accept development funds from the above institutions as well as, multinational pharmaceutical companies and life industry. The development researchers emerging out of the discourse on indigenousism, are the proponents of retrieval, recording and dissemination of indigenous knowledge for development with a bottom up participatory focus. However, since indigenousism is

embedded in the basic dichotomy of modernism, these researchers cannot step out of it and allow people to be the subjects or actors of their own fate rather than playing the role of modernizers. Sillitoe's (1998) indigenousist prescription to fix the problems of the less–developed by *assisting* them with their local knowledge reflects the true nature of

Figure 5: Weapon for both



such development scholars. His enthusiasm about the utility of indigenous knowledge in developing the undeveloped and his optimism for increases in financial and programmatic interest of UK government's funding agency reveals the nature of the relationship of development scholars with the second component of Cluster 1, the IDIs (also see Warren 1998 in comment on Sillitoe 1998 for similar optimism of the indigenousism).

Before I go farther to show why IDI s support indigenousism, a brief discussion about the history of these institutions is necessary. Most important IDIs were created during the cold war to encourage third world countries to develop western style capitalist democracy. They all hold a high modernistic ideology, some times with a neo-liberal make over; their goal is to simplify, generalize and bring every society under the umbrella of development. The historical goals of such institutions involved economic growth, growth with equity, basic needs, participatory development, sustainable development, sustainable livelihood, etc. All of these mean turning the target populations into workers and consumers operating in a capitalist market economy. The failure of these methods led to the search for an alternative approach: indigenous knowledge which I already described in discussion of emergence of indigenousism.

These institutions invested a great deal of their research and development funds in the less-developed regions of the world to 'scientize' indigenous knowledge as a way to achieve tailored social change in those regions. Considerable amount of money was invested to create databases of facets of indigenous knowledge that are useful for the development (Sillitoe 1998). Agrawal (2002) presented in eloquent detail the contradiction of such endeavors, for instance, how World Bank, through its 'scietization' projects; first, artificially divide indigenous knowledge into useful and useless. Secondly, the indigenous is separated from the base and from the people who posses this knowledge. For the developers like the World Bank, when the useful knowledge is extracted little is left for the people who possessed them, as the process of scientization itself is regarded as conservation (See Table 1 in page 17). The most important effect is the political one, who uses this database? I consider such projects aimed at archiving

indigenous knowledge funded by development agencies are a first step inside the often-secluded indigenous groups and their habitat. Moreover, local knowledge when coded and recorded and archived in national research centers, no longer remains the same knowledge nor is it the property of the people from whom it was collected. Therefore, they can easily be exploited by the bio-prospecting of multinational pharmaceuticals and other life industries, the third component of my Cluster 1(Figure 5, p.48).

Cluster 2

This cluster includes the indigenous people and their political voices who are also followers of indigenousism, as well as the environmental NGOs (such as, Genetic Resources Action International, Third World Network etc.) described by Dumoulin (2003). These components act as academic and political lobbyists for transnational networking to end bio-prospecting from the indigenousist people of the south.

I regard the indigenous people who supports indigenousism; for example, the Mandi activists who are fighting against the eco-park in Madhupur, as having a false consciousness of about gaining control over their endangered livelihoods by using indigenous knowledge as their weapon for lobbying for their rights. My rationale behind such a position originates from the very nature of indigenousism – inherited dualism, severance of knowledge from the people, creating opportunities for the powerful social actors to gain from the whole process leaving the local people in subjected 'otherness' and not including the existing global, regional and national power relationships in the frame of reference. Indigenous people, like the Mandi from my case study, reflects the burdens of indigenousism in their front stage presentation of their Mandi self. This can be

attributable to the impact of the motivational undertakings from the components of Cluster 1. Cluster 1 is analogous to the anti – politics machine (see Ferguson, 1997 for more details), not necessarily acting with an evil intention but because of the constructed misconception and inherent dualism in modernistic ideology. The Mandi, being influenced by this indigenousism fails to see the danger of indigenousism and falsely identify themselves with the concept as a way to fight for their rights. They view that indigenous knowledge serves as an instrument to get heard in the research and academic arena, which is supported by the information collected by the ethnographic study among them. Although they did not have any significant understanding of the term 'indigenous knowledge', their Mandi identity described and fantasized by one politically motivated informant leads me to take into account of the NGO-led propaganda for indigenousism. I do not intend to criticize the Mandi efforts to fight for their rights. My intention is to show how it is flawed because of its inherited dualism and the false identity of indigenousness. The only resort left to indigenous people is to get out of this illusion and unite to empower themselves so that they ca confront their relationship with the components of Cluster1 on an equal ground. This can never be reached until they have the decisive power of control whatever knowledge they have.

Conclusion

Indigenous knowledge has been a popular concept in the development literature both for the scholars and the activists for years. The life cycle of this concept has passed through phases of disregard, over enthusiasm, and stern critique. Along this life cycle, the concept of indigenous knowledge involved myths in the scholarly literature as well as in the development discourse. Some of the myths, for example, condemned indigenous knowledge to be harmful for environment and regarded it as superstition while others held romantic view of this 'people's science' to have better ecological flavor than scientific knowledge. However, some others critiqued the use of this concept by considering the dichotomy as false. In this research, I traveled through all these different perspectives in academia about indigenous knowledge. I also collected ethnographic information about the agricultural practices and conception of indigenous knowledge among a group of farmers from the Mandi community in Bangladesh which revealed that Mandi farmers did not identify their knowledge as indigenous. My analysis of literature and the ethnography about the Mandi led me to construe that this concept of indigenous knowledge is being used by different sides of the development apparatus (I call them the clusters) for their differing interests regardless of the fact that this concept is theoretically and empirically untenable.

Indigenous people as well as many other interest groups employ the notion of indigenous knowledge to push their varied agendas and, in the process, raise related questions about tradition, locality, and indigenous. They also hold the belief that although they no longer employ indigenous knowledge for their subsistence, traditional indigenous

knowledge is valuable for defining their cultural identity vis-à-vis the state and other outside development actors. It became purely a political symbol of strategic value in mobilizing the community against forest department (Baviskar 2000:101-117). Bal's description of tribalist and indigenous discourse also supports this view (Bal 2000: 36). The notion of indigenouness offers these people who are often marginalized in the national politics, a political platform. It also provides a world wide network and a reason to ask for support and attention from the international aid agencies, human rights organizations, etc. The concept still provides a modern basis of the dichotomization and 'othering' (Bal, 2000:37). However, I recognize such activism as flawed because of its inherited dualism and the falsehood of a perceived notion of the front stage or public image. This activism stems out of the depoliticized mainstream NGO-led perception of indigenousism, which is not oriented towards change in the existing power relations that is responsible for the disadvantaged position of the indigenous population. The conflict perspective of community participation provides a more reasonable approach to the analysis of development process by reorienting state policies to allow members of endangered populations to determine their own future, thus facilitating *in situ* preservation of local knowledge and allowing the local people to gain control over the use of their land and resources, intellectual, physical, and biological. Those who are seen to possess knowledge and resources should also possess the right to decide on how to conserve their knowledge and resources, and how, and by whom will it be used.

Limitations and future plans

The basic limitation was the chosen season for research, July 2005, which was not appropriate because of the difficulty of transportation during the rainy season. Since I was in Bangladesh for this study only for 2 months there was not enough time for an in-depth coverage of concepts like indigenous knowledge and environment from the Mandi. Another dilemma involved planning research in English and executing it in Bangla among a group of people who speak Mandi and understands Bangla. Some concepts in English, for example, like environment have a different connotation in Bangla and may have some other in Mandi. And asking the Mandi in Bangla, do you possess indigenous knowledge, sounds stupid. And they seemed not to understand the Bangla synonyms that easily. So, language barriers might have hindered part of our understanding in this research. However, this research equipped me with the understanding of the way of life, agriculture and environment of the group of people about whom I wish to study more. Long term research on the same villages might yield results that can help inferences about the group and their knowledge about agriculture and environment. This can work as an example of the critique of the concept indigenous knowledge. Moreover, role of the NGOs and the government in this area needs closer scrutiny. More informal stays can enable a researcher to gather deeper understanding of issues like the politics of environment and indigenousity, etc.

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Appendices

Appendix 1:

FGD CHECKLIST

1. Agriculture in Jhum Era
    a. History of Jhum cultivation in the area
    b. Crops, cultivation method, responsibility sharing, site selection, etc.
    c. Seeds of plants, especially, rice and timber.
    d. Agricultural decision making
    e. Environment
    f. Indigenous knowledge
2. Agriculture Now
    a. Crops, varieties, cultivation method, responsibility sharing, site selection, etc
    b. Agricultural decision making: Male-Female
        i. leasing out , crop choice, etc.
    c. Agricultural inputs-outputs
        i. Seeds
        ii. Irrigation
        iii. Fertilizers, pesticides, Integrated Pest Management
        iv. Marketing
    d. Institutional bondage
        i. NGO
        ii. Government- Agricultural Extension worker
        iii. Indigenous forums
        iv. Church
    e. Environment
    f. Indigenous knowledge
        i. How do you know what to cultivate?
        ii. How do you know how to cultivate?
        iii. Where do you get information about the crops you produce?
        iv. Are there any practices that you did during the jhum era that you still perform? What are these?

Appendix 2:

Field Log of my Research

1. June 17, 2005. Reached Dhaka, Bangladesh from Bethlehem, Pennsylvania, USA.

2. June 30, 2005. Dhaka. Meeting with Professor Lutfur Rahman, Principal Investigator, BAU-USDA Soybean Project, Professor, Department of Genetics and Plant Breeding. BAU.

    - Issues Discussed: Key research issues, How to find informants, how to form the groups, how he can help with his Program officers and other contacts in the Mandi villages of Madhupur, etc

3. July 4, 2005. Mymensingh. Meeting with Mr. Mujibor Rahman, Program Officer, BAU-USDA Soybean Project.

    - Issues Discussed: Key research issues, key informant, NGOs working in that area, contact with an NGO and with the key informant, planning and organizing the field trip etc.

4. July 5, 2005. Mymensingh. Meeting with Khondokar Faruk Ahmed, Chairman, Treenomul, a local NGO of Mymensingh.

    - Issues Discussed: Key research issues, key informant, his interest about the Mandi and his contacts among local NGOs who are working with the Mandi.

5. July 7, 2005. Tangail. Meeting the key informant: Supendra Hadima and the second interviewee, his wife in their residence in village - Beribaid, Jalchatra, Madhupur, Tangail.

    - Issues Discussed: *Jhum* cultivation, agricultural practices in Jhum period and in recent years, environment etc.

6. July 8, 2005. Tangail. Meeting with Sham Borua, Program Officer, Mennonite Central Committee, Jalchatra, Madhupur.

    - Issues Discussed: How to arrange the Focus group discussions and how to form the groups, scheduling etc.

7. July 18, 2005. Tangail. Meeting the first two focus groups of elderly male and female farmers in village - Gayrabaid, Jalchatra, Madhupur, Tangail.
    - Issues Discussed: FGD Checklist (Appendix 1)

8. July 19, 2005. Tangail. Meeting with Sham Borua and Mujibur Rahman for interview, MCC Regional Branch Office, Jalchatra, Modhupur, Tangail.

    - Issues Discussed: Programs taken up by their respective organizations for the Mandi, Rationale of such programs, perception about the environment, about the Mandi, their agriculture etc.

9. July 20, 2005. Tangail. Meeting two more focus groups; male and female farmers above 50 years of age.

    - Issues Discussed: FGD checklist (Appendix 1)

10. July 22, 2005. Meeting with two more focus groups; males and females of 30-50 years.

    - Issues Discussed: FGD checklist (Appendix 1)

11. July 23, 2005. Meeting with two more focus groups; males and females of 20-30 years of age

    - Issues Discussed: FGD checklist (Appendix 1)

12. August 7, 2005. Came back to Bethlehem, PA, USA.

SAMINA LUTHFA: Curriculum Vitae

Date and place of Birth

June 01, 1976 in a district town called Mymensingh in Bangladesh.

Family

My parents Professor Lutfur Rahman (father) and Professor Lutfun Hussain (mother) are faculty members in Bangladesh Agricultural University, Mymensingh. My only sister is in Sweden with her family, currently working as a PhD student in International Business in the University of Gothenburg. I got married in 2002 and my husband Mohammad Ali Haider works as Live Action Producer, Sesamepur (Sesame Street, Bangladesh) and my daughter Prakrito Nree Haider was born in Bethlehem in January 6, 2005 while I was pursuing my MA at Lehigh University.

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Education

M.A. – Sociology, Lehigh University, 2004 – To date (May 2006 expected Graduation).
M.S.S. – Sociology, University of Dhaka 1997- 1998 (degree conferred in 2001).
B.S.S. – Sociology, University of Dhaka, 1994 –1997 (degree conferred in 1999).

Work Experience: Academic

October 2002 onward: Lecturer, Department of Rural Sociology, Bangladesh Agricultural University, Mymensingh, Bangladesh.

November 2001 – November 2002: Part-Time Teacher of Sociology, Department of History, University of Dhaka, Bangladesh.

Work Experience: Research

June 2002 – August 2002: Research Assistant, Health Sector Reforms in Bangladesh, a Project of Columbia University, USA, executed in Dhaka, Bangladesh.

November 2001-January 2002: Part-Time Research Assistant, Ain O Shalish Kendra (ASK).

Feb 2001 – April 2001: Research Assistant, Second Non Formal Education Project, ADB TA no. 3465BAN. DNFE, AUCC, Path-mark Associates Ltd and DPC Group.

Publications

--, 2004. Structural Adjustment Policy, Agriculture and Pauperization in Bangladesh in: *The Social Science Review*. The Dhaka University Studies Part D edited by H. Rashid Vol. 12, no. 1 ISSN 1562-269X. Dhaka, Bangladesh: Faculty of Social Science, University of Dhaka.

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Jahan, R., S. Luthfa, I Kabir and T Dewan. 2003. Health Sector Programme in Bangladesh: Promoting Participation and Gender Equity Report No. 53. Dhaka: Center for Policy Dialogue

Others:

S. Luthfa. 2003. Teerthangkar (a play in Bangla) in: *Theater* edited by R Majumdar Year 32 No. 2. Dhaka, Bangladesh: R. Majumder.

Conference Presentations

Luthfa S. 2006. Presented the paper titled "Place of Mandi in Bangladesh" in the Annual Meeting of Eastern Sociological Society, at Sheraton Hotel, Boston, MA from February 23-25, 2006.

--. 2006. Presented a poster titled "A weapon for both: Debunking the myth of indigenous knowledge" in the Annual Meeting of Eastern Sociological Society, at Sheraton Hotel, Boston, MA from February 23-25, 2006.

Field Experience

June 2005 – Aug 2005: Studied indigenous Mandi community in Modhupur, Bangladesh to know about their indigenous knowledge and its relation with the environment and agriculture as a part of the Research Practicum and dissertation for the MA degree at Lehigh University, Pennsylvania, USA.

June 2000 – Jan 2001: Study of pauperization among selected farmers in Trishal Thana, Mymensingh, Bangladesh as a part of the Monograph for MSS from University of Dhaka, Dhaka, Bangladesh.

Nov 1998 – April 1999: Household Poverty Survey among the Slum Dwellers of Kawran Bazar Railroad Slum, Dhaka, Bangladesh as a part of course no. 323 (Sociology of Poverty) in University of Dhaka.

July 1997 – August 1997: Survey of the Informal Sector of Dhaka City and the Emergence of a Proto-proletariat Class, as a part of the course no. 211 (Urban Sociology) in University of Dhaka.

Awards:

2004-2006: Junior Fulbright Scholar continuing Masters Degree in Lehigh University, Bethlehem Pennsylvania USA

2001: Awarded Nazmul Karim Memorial Gold Medal 1998 for the result in MSS final Examination.

Membership

2006. Graduate Student Member of American Sociological Society

2006. Graduate Student Member Eastern Sociological Society

Teaching and Courses:

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Social Demography and Agrarian Studies (2003-2004)

Undergraduate

Principles of Sociology and Rural Sociology (2003-2004)

END OF TITLE